

**Division of Clinical Microbiology**

**Arbovirus Detection <sup>1, 2</sup>**

**Method:** Real-time PCR

**Specimen Type:** Serum, urine, and cerebral spinal fluid      **Specimen Amount:** ≥ 1 mL

**Container:** Sterile collection container; 5 mL vial

**Storage:** 2 to 8 °C, - 20 °C

**Transport:** 2 to 8 °C, < 0 °C

The Bureau of Laboratories tests serum and urine specimens for Chikungunya virus, Dengue virus, and Zika virus. Specimens submitted for other arbovirus (e.g., West Nile virus, Yellow Fever virus, Powassan virus) testing are referred to the Centers for Disease Control and Prevention.

Approval from the Pennsylvania Department of Health Bureau of Epidemiology is required before arbovirus PCR and culture testing is performed on human specimens. Please contact an epidemiologist at 717-787-3350 to arrange testing.

**Arbovirus Serology <sup>1, 2</sup>**

**Method:** ELISA - IgG and IgM

**Specimen Types:** Serum or plasma      **Specimen Amount:** ≥ 1 mL

**Container:** Sterile tube

**Storage:** 2 to 8 °C

**Transport:** 2 to 8 °C

**Arbovirus Environmental Monitoring**

**Method:** Real-time PCR

**Specimen Types:** Mosquitoes, bird swabs, or horse tissue      **Specimen Amount:** See below

**Container:** See below

**Storage:** 2 to 8 °C

**Transport:** 2 to 8 °C

The Bureau of Laboratories conducts environmental monitoring for Eastern Equine Encephalitis virus, LaCrosse virus, St. Louis Encephalitis virus, and West Nile virus in conjunction with the Pennsylvania Departments of Agriculture and Environmental Protection. Specimens are only accepted from those Commonwealth agencies.

## Bacterial Isolate Identification

**Method:** Conventional and molecular

**Specimen Type:** Bacterial isolate

**Container:** Culture tube

**Storage:** Ambient temperature

**Specimen Amount:** Not applicable

**Media:** TSA slant or another appropriate medium

**Transport:** Ambient temperature

## Bacterial Pathogens – Food Testing

**Methods:** Real-time PCR and culture

**Sample Types:** Food or beverage

**Container:** Any

**Storage:** 2 to 8 °C

**Specimen Amount:** Solids ≥ 25 g, Liquids ≥ 30 mL

**Transport:** 2 to 8 °C

The Bureau of Laboratories tests food and beverage samples for *Campylobacter*, *E. coli*, *Salmonella*, Shiga Toxin, and *Shigella*. Call 610-280-3464 to request testing for *Campylobacter*, *Listeria*, *Vibrio*, and *Yersinia* before submitting samples.

## Bioterrorism Agents – Clinical, Environmental, Food, Reference Culture <sup>1, 2</sup>

**Methods:** Real-time PCR and culture

**Sample/Specimen Type:** Variable

**Container:** Sample/specimen dependent

**Storage:** Sample/specimen dependent

**Specimen Amount:** Sample/specimen dependent

**Transport:** Sample/specimen dependent

The Bureau of Laboratories tests clinical specimens, environmental samples, food samples, and reference cultures for *Bacillus anthracis*, *Brucella spp.*, *Burkholderia mallei* and *Burkholderia pseudomallei*, *Francisella tularensis*, and *Yersinia pestis*. Call 484-870-6398 before submitting samples/specimens.

**Bordetella Detection**

**Methods:** Real-time PCR and culture

**Specimen Types:** Bacterial isolate, nasopharyngeal swab, nasopharyngeal wash

**Specimen Amount:** >1 mL      **Media:** Regan-Lowe or ESwab bacterial collection for swab or sterile collection

**Storage:** 2 to 8 °C      **Transport:** 2 to 8 °C      container for wash.

The Bureau of Laboratories tests bacterial isolates and clinical specimens for *Bordetella pertussis*, *Bordetella parapertussis*, and *Bordetella holmesii*. Use kits provided by the Bureau of Laboratories to collect and ship specimens. Call 484-870-6432 to request collection supplies.

**Botulism Toxin Detection – Infant (< 1yr old) <sup>1, 2</sup>**

**Method:** Mouse bioassay for *Clostridium botulinum* toxin

**Specimen Type:** Stool

**Specimen Amount:** 10 g or 10 mL

**Container:** Sterile container

**Storage:** 2 to 8 °C

**Transport:** 2 to 8 °C

**Campylobacter Species Identification <sup>1, 2</sup>**

**Method:** Conventional biochemical tests

**Specimen Type:** Bacterial isolate

**Specimen Amount:** Not applicable

**Container:** Agar slant

**Media:** Blood, Carey-Blair, or Chocolate

**Storage:** Ambient temperature

**Transport:** Ambient temperature

**Carbapenemase Detection**

**Method:** Real-time PCR and mCIM

**Specimen Type:** Bacterial isolate

**Specimen Amount:** Not applicable

**Container:** Agar slant

**Media:** Multiple

**Storage:** Ambient temperature

**Transport:** Ambient temperature

The Bureau of Laboratories tests bacterial isolates for Carbapenemase gene detection: *KPC*, *NDM*, *OXA-48-like*, *VIM*, *mcr-1*, and *mcr-2*. Testing is only performed to support public health surveillance and response. Contact your local public health department to obtain approval for testing before submitting isolates.

<sup>1</sup> Nationally notifiable condition

<sup>2</sup> Pennsylvania reportable disease

***Chlamydia trachomatis* Detection <sup>1, 2</sup>**

**Method:** PCR

**Specimen Types:** Endocervical swab, urethral swab, or urine      **Specimen Amount:** Swab or > 35 mL urine

**Container:** Swab transport tube or urine transport tube

**Storage:** 2 to 8 °C

**Transport:** Ambient temperature

The Bureau of Laboratories only tests specimens for Chlamydia after receiving approval from the Department of Health Sexually Transmitted Diseases Program. Call 717-547-3443 to obtain approval.

Transfer approximately 3 mL of urine to the black line on the fill window on the transport tube label. Transfer urine to the transport tube within eight hours of collection. Swab and urine specimens must be received within six days of collection. Use the kits provided by the Bureau of Laboratories to collect specimens. Call 484-870-6432 to request collection supplies.

***Coxiella burnetii* Detection – Clinical Specimens <sup>1</sup>**

**Method:** Real-time PCR

**Specimen Types:** Whole blood

**Specimen Amount:** ≥ 1 mL

**Container:** EDTA blood collection tube

**Storage:** 2 to 8 °C

**Transport:** 2 to 8 °C

Call 484-885-3579 before submitting specimens.

***Coxiella burnetii* Detection – Environmental Samples <sup>1</sup>**

**Method:** Real-time PCR

**Specimen Types:** Swabs, liquids, and powders

**Specimen Amount:** Various

**Container:** Various

**Storage:** Various

**Transport:** Various

Call 484-885-3579 before submitting samples.

### Enteric Pathogens <sup>1, 2</sup>

**Methods:** Real-time PCR and culture

**Specimen Type:** Stool

**Specimen Amount:** Add until medium reaches fill line

**Container:** Carey-Blair transport medium vial

**Media:** Carey-Blair transport medium

**Storage:** 2 to 8 °C

**Transport:** 2 to 8 °C

The Bureau of Laboratories tests stool specimens for *Salmonella*, *Shigella*, *E. coli* O157 and Shiga-like toxin producers. Specimens can be tested for *Campylobacter*, *Vibrio*, *Listeria*, *Aeromonas*, *Yersinia* and *Plesiomonas* upon special request. Call 610-280-3464 and select the Microbiology prompt.

### *Escherichia coli* O157 Identification <sup>1, 2</sup>

**Method:** Conventional biochemical tests and serogrouping

**Specimen Type:** Bacterial isolate

**Specimen Amount:** Not applicable

**Container:** Culture tube

**Media:** TSA slant

**Storage:** Ambient temperature

**Transport:** Ambient temperature

### *Haemophilus influenzae* Identification <sup>1, 2</sup>

**Method:** Conventional biochemical tests and serotyping

**Specimen Type:** Bacterial isolate

**Specimen Amount:** Not applicable

**Container:** Culture tube

**Media:** Chocolate slant

**Storage:** Ambient temperature

**Transport:** Ambient temperature

Pennsylvania regulations require that all *H. influenzae* isolates obtained from sterile sites be submitted to the Bureau of Laboratories.

**Influenza Detection <sup>1, 2</sup>**

**Method:** Real-time PCR

**Specimen Types:** Nasal or throat swab

**Specimen Amount:** > 1mL of transport medium

**Container:** Collection tube

**Media:** Viral transport medium

**Storage:** 2 to 8 °C

**Transport:** 2 to 8 °C

Influenza-associated pediatric deaths and novel Influenza A virus infections are nationally notifiable. Laboratory-confirmed cases of Influenza are reportable in Pennsylvania.

***Legionella spp. and pneumophila* Identification <sup>1, 2</sup>**

**Methods:** Real-time PCR

**Specimen Type:** Bacterial isolate

**Specimen Amount:** Not applicable

**Container:** Culture tube

**Media:** BYCE slant

**Storage:** Ambient temperature

**Transport:** Ambient temperature

***Legionella* Detection from Water**

**Methods:** Culture, DFA, and Real-time PCR

**Specimen Type:** Water

**Specimen Amount:** 1 L

**Container:** Polypropylene screw cap container

**Storage:** Ambient temperature

**Transport:** Ambient temperature

***Listeria monocytogenes* Identification <sup>1, 2</sup>**

**Methods:** Conventional biochemical tests; Whole genome sequencing (WGS) for outbreak surveillance

**Specimen Type:** Bacterial isolate

**Specimen Amount:** Not applicable

**Container:** Culture tube

**Media:** Blood, chocolate, or TSA slant

**Storage:** Ambient temperature

**Transport:** Ambient temperature

**Lyme Disease Serology – *Borrelia burgdorferi* <sup>1, 2</sup>**

**Methods:** Screening: ELISA C6 Peptide; Confirmation: IgG and IgM Western blots

**Specimen Types:** Serum or plasma

**Specimen Amount:** ≥ 1 mL

**Container:** Red-topped blood collection tube

**Storage:** 2 to 8 °C

**Transport:** 2 to 8 °C

**Malaria and Babesia Confirmation <sup>1, 2</sup>**

**Methods:** Microscopy and real-time PCR

**Specimen Type:** Stained slides, blood

**Specimen Amount:** See below

**Container:** See below

**Storage:** See below

**Transport:** See below

Store and transport stained slides at ambient temperature. Submit slides in a slide mailer. Collect at least 1 mL of blood in a 5 mL blood collection tube containing EDTA. Store and transport blood specimens at 2 to 8 °C. No testing is performed at the Bureau of Laboratories. Slide images are electronically sent to the CDC for confirmation ([www.dpd.cdc.gov](http://www.dpd.cdc.gov)). Blood specimens are referred to the CDC for PCR identification only when required by the CDC's parasitology laboratory and resistance surveillance.

**Molecular Subtyping – Cluster Detection <sup>2</sup>**

**Method:** Whole genome sequencing (WGS)

**Specimen Type:** Enterobacteriaceae and *Listeria* bacterial isolate

**Specimen Amount:** Not applicable

**Container:** Pure culture

**Media:** Slant growth medium

**Storage:** Ambient temperature

**Transport:** Ambient temperature

The Bureau of Laboratories conducts WGS subtyping on Shiga toxin-producing *E. coli* (STEC), *Salmonella* and *Shigella spp.* bacterial isolates submitted as part of the surveillance program mandated by Pennsylvania Code Title 28, Chapter 27. WGS is also conducted on *Listeria monocytogenes* and *Vibrio parahaemolyticus*. WGS may be requested to aid in an infection control investigation on a limited number of bacterial isolates. Contact Lisa Dettinger, Director of Clinical Microbiology, at 484-870-6416 to obtain approval for infection control investigation testing.

**Bureau of Laboratories**

**Mumps Virus Detection <sup>1, 2</sup>**

**Method:** Real-time PCR

**Specimen Types:** Buccal swab, serum, tissue culture fluid, and urine      **Specimen Amount:** See below

**Container:** See below

**Storage:** 2 to 8 °C

**Transport:** 2 to 8 °C

**Specimen amounts:** Buccal swab = 1 swab; serum ≥ 1 mL; tissue culture fluid ≥ 0.5 mL; urine ≥ 35 mL

**Mumps Virus Serology <sup>1, 2</sup>**

**Method:** ELISA IgG and IgM

**Specimen Type:** Buccal swab, serum, urine

**Specimen Amount:** ≥ 1 mL

**Container:** 5 mL blood collection tube

**Storage:** 2 to 8 °C

**Transport:** 2 to 8 °C

No testing is performed at the Bureau of Laboratories. Specimens are referred to the CDC for testing.

Testing performed at CDC. Send buccal swab and urine for PCR testing along with serology to the Bureau of Laboratories for forwarding to the CDC.

**Mycobacteria Culture <sup>1, 2</sup>**

**Methods:** Fluorescent microscopy, MGIT 960 broth culture, and Middlebrook agar

**Specimen Type:** Sputum

**Specimen Amount:** ≥ 5 mL

**Container:** 50 mL conical tube

**Storage:** Ambient temperature

**Transport:** Ambient temperature

Collection is done through the State and County Health Centers.

**Mycobacteria Identification <sup>1, 2</sup>**

**Methods:** Microscopy, DNA probes and mycolic acid analysis by HPLC

**Specimen Type:** Mycobacteria culture

**Specimen Amount:** Not applicable

**Container:** Medium tube

**Media:** Middlebrook, LJ, or positive broth culture

**Storage:** Ambient temperature

**Transport:** Ambient temperature

***Mycobacterium tuberculosis* Drug Susceptibility <sup>2</sup>**

<b>Methods:</b> Primary drugs: MGIT 960 broth culture	Secondary drugs: Agar proportion
<b>Specimen Type:</b> <i>M. tuberculosis</i> culture	<b>Specimen Amount:</b> Not applicable
<b>Container:</b> Medium tube	<b>Media:</b> Middlebrook, LJ, or positive broth culture
<b>Storage:</b> Ambient temperature	<b>Transport:</b> Ambient temperature
<b>Primary Drugs:</b> Ethambutol, isoniazid, pyrazinamide, and rifampin	
<b>Secondary Drugs:</b> Amikacin, capreomycin, cycloserine, ethambutol, ethionamide, isoniazid, kanamycin, ofloxacin, rifampin and streptomycin	

***Mycobacterium tuberculosis* complex – Nucleic Acid Amplification <sup>1, 2</sup>**

<b>Method:</b> Real-time PCR	
<b>Specimen Type:</b> Clinical respiratory (unprocessed)	<b>Specimen Amount:</b> ≥ 5 mL
<b>Container:</b> 50 mL conical tube	
<b>Storage:</b> 2 to 8 °C	<b>Transport:</b> 2 to 8 °C

**Mycology Identification**

<b>Method:</b> See below	
<b>Specimen Type:</b> Culture	<b>Specimen Amount:</b> Not applicable
<b>Container:</b> Slant medium	<b>Media:</b> Growth medium
<b>Storage:</b> Ambient temperature	<b>Transport:</b> Ambient temperature
The Bureau of Laboratories does not perform mycology identification. Pure fungal cultures are referred to the Centers for Disease Control and Prevention for identification.	

***Neisseria gonorrhoeae* Culture and Identification <sup>1, 2</sup>**

<b>Method:</b> Conventional biochemical tests	
<b>Specimen Type:</b> Bacterial isolate or clinical specimen	<b>Specimen Amount:</b> Not applicable
<b>Container:</b> Collection device or plate medium	<b>Media:</b> Chocolate media with antibiotics
<b>Storage:</b> Incubate at 35 to 37 °C in CO <sub>2</sub>	<b>Transport:</b> Ambient temperature in CO <sub>2</sub> bag

**Bureau of Laboratories**

***Neisseria gonorrhoeae* Drug Susceptibility <sup>1, 2</sup>**

**Method:** Disc diffusion

**Specimen Type:** Bacterial isolate or clinical specimen

**Specimen Amount:** Not applicable

**Container:** Collection device or plate medium

**Media:** Chocolate media with antibiotics

**Storage:** Incubate at 35 to 37 °C in CO<sub>2</sub>

**Transport:** Ambient temperature in CO<sub>2</sub> bag

The Bureau of Laboratories tests for susceptibility to azithromycin (15 µg), cefixime (5 µg), ceftriaxone (30 µg), ciprofloxacin (5 µg), penicillin (10 U), spectinomycin (100 µg), and tetracycline (30 µg)

***Neisseria meningitidis* Identification <sup>1, 2</sup>**

**Methods:** Conventional biochemical tests and serotyping

**Specimen Type:** Bacterial isolate

**Specimen Amount:** Not applicable

**Container:** Culture tube

**Media:** Slant

**Storage:** Ambient temperature

**Transport:** Ambient temperature

Pennsylvania regulations require that all isolates of *N. meningitidis* isolates obtained from sterile sites be submitted to the Bureau of Laboratories.

**Norovirus Detection**

**Method:** Real-time PCR

**Specimen Type:** Stool

**Specimen Amount:** See below

**Container:** Sterile container or Cary-Blair

**Storage:** 2 to 8 °C

**Transport:** 2 to 8 °C

Add specimen to fill line on Cary Blair.

**Parasitic Disease Serology**

**Methods:** See below

**Specimen Type:** Serum

**Specimen Amount:** ≥ 1 mL

**Container:** 5 mL vial

**Storage:** 2 to 8 °C

**Transport:** 2 to 8 °C

Specimens are referred to the Centers for Disease Control and Prevention's (CDC) for testing. See the CDC's website ([www.dpd.cdc.gov/dpdx/](http://www.dpd.cdc.gov/dpdx/)) for a complete listing of immunoassays for parasitic diseases.

### Rabies <sup>1, 2</sup>

**Methods:** DFA

**Specimen Type:** Brain tissue

**Specimen Amount:** Animal head or small animal

**Container:** Leak proof container with cold pack

**Storage:** 2 to 8 °C

**Transport:** 2 to 8 °C

The [Rabies Human Exposure Questionnaire](#) must be submitted along with the specimen. It can be found on the Rabies page of the Bureau of Laboratories' website ([www.health.pa.gov/labs](http://www.health.pa.gov/labs)). Call (484) 870-6289 with questions.

### Ricin Detection – Environmental and Food

**Method:** Time-resolved Fluorescence (TRF) immunoassay

**Specimen Type:** Variable

**Specimen Amount:** Variable

**Container:** Leak proof container

**Storage:** See below

**Transport:**

Call (484) 870-6398 prior to submitting samples to obtain approval for testing and details on packaging, storage, and transport.

### Rubella Serology <sup>1, 2</sup>

**Methods:** ELISA IgG and IgM

**Specimen Types:** Serum or plasma

**Specimen Amount:** ≥ 1 mL

**Container:** 5 mL vial

**Storage:** 2 to 8 °C

**Transport:** 2 to 8 °C

The Bureau of Laboratories only performs IgG testing. Specimens are referred to the CDC for IgM testing.

**Rubeola (Measles) Serology <sup>1, 2</sup>**

**Method:** ELISA IgG and IgM

**Specimen Type:** Serum or plasma

**Specimen Amount:** ≥ 1 mL

**Container:** 5 mL vial

**Storage:** 2 to 8 °C

**Transport:** 2 to 8 °C

The Bureau of Laboratories only performs IgG testing. Specimens with positive IgG results are referred to the CDC for IgM testing.

**Rubeola (Measles) Detection <sup>1, 2</sup>**

**Method:** Real-time PCR

**Specimen Types:** See below

**Specimen Amount:** See below

**Container:** See below

**Storage:** 2 to 8 °C

**Transport:** 2 to 8 °C

Collect respiratory specimens (nasopharyngeal aspirate, nasopharyngeal swab, or oropharyngeal swab within four days of the onset of symptoms. For improved virus detection, submit a urine specimen should with a respiratory specimen. Urine specimens collected less than four days from the onset of symptoms may not yield positive results.

Nasopharyngeal aspirate: ≥ 0.5 mL fluid in a 5 mL vial

Nasopharyngeal swab: 1 swab in viral transport media

Urine: 35 mL in a 50 mL conical tube

**Salmonella Identification <sup>1, 2</sup>**

**Methods:** Conventional biochemical tests, serogrouping, and whole genome sequencing (WGS)

**Specimen Type:** Bacterial isolate

**Specimen Amount:** Not applicable

**Container:** Culture tube

**Media:** TSA slant

**Storage:** Ambient temperature

**Transport:** Ambient temperature

**SARS-CoV-2 Detection <sup>1, 2</sup>**

**Method:** Real-time PCR

**Specimen Types:** Nasopharyngeal, nasal or throat swab

**Specimen Amount:** 1 swab

**Container:** Viral transport tube

**Media:** Viral transport medium

**Storage:** 2 to 8 °C

**Transport:** 2 to 8 °C

SARS-CoV-2 infections are nationally notifiable and are reportable in Pennsylvania.

**SARS-CoV-2 IgG Serology <sup>1, 2</sup>**

**Method:** ELISA IgG

**Specimen Type:** Serum

**Specimen Amount:** ≥ 1 mL

**Container:** 5 mL vial

**Storage:** 2 to 8 °C

**Transport:** 2 to 8 °C

SARS-CoV-2 infections are nationally notifiable and are reportable in Pennsylvania.

**Shigella Identification <sup>1, 2</sup>**

**Methods:** Conventional biochemical tests and serotyping

**Specimen Type:** Bacterial isolate

**Specimen Amount:** Not applicable

**Container:** Culture tube

**Media:** TSA slant

**Storage:** Ambient temperature

**Transport:** Ambient temperature

**Shiga-like Toxin Detection <sup>1, 2</sup>**

**Method:** Real-time PCR for Shiga-like Toxin 1 and 2

**Specimen Types:** Bacterial isolate or broth culture

**Specimen Amount:**

**Container:** Culture medium

**Media:** Slant or GN broth

**Storage:** Ambient temperature

**Transport:** Ambient temperature

Serotyping and WGS are performed on all Shiga-like Toxin producing *E. coli* upon isolation of the organism.

## Tick Identification

**Method:** Microscopy

**Specimen Type:** Suspected tick

**Specimen Amount:** Not applicable

**Container:** Non-crushable container

**Storage:** Ambient temperature

**Transport:** Ambient temperature

The Bureau of Laboratories will identify ticks but does not perform *Borrelia sp.* testing on ticks. Consult a reference laboratory for *Borrelia sp.* testing.

## Toxin Testing

**Methods:** ELISA

**Sample Type:** Food or beverage

**Specimen Amount:** Solids ≥ 25 g, Liquids ≥ 30 mL

**Container:** Leak-proof container

**Storage:** 2 to 8 °C

**Transport:** 2 to 8 °C

The Bureau of Laboratories tests for *Staphylococcus Enterotoxin*, *Bacillus cereus*, Shiga toxin, *Staphylococcus aureus* toxins. Samples are referred to the Centers for Disease Control and Prevention (CDC) for Toxic Shock toxin (TST) and Pantone-Valentine leukocidin toxin (PVL) testing. Include the CDC specimen submission form that can be found on the Bureau of Laboratories' website ([www.health.pa.gov/labs](http://www.health.pa.gov/labs)) when submitting samples.

## Vaccinia Virus Detection

**Method:** Real-time PCR

**Specimen Type:** See below

**Specimen Amount:** 1 swab or 1 tissue specimen

**Container:** Sterile container

**Storage:** 2 to 8 °C

**Transport:** 2 to 8 °C

Specimen Types: Fluid or skin from vesicle or pustule, punch biopsy, ocular impressions or swab

Collection instructions: (1) Sanitize skin with alcohol wipe and allow to completely dry (2) Open and remove the top of the lesion using a sterile scalpel or polyester or rayon-tipped swab (3) Break off swab and place in a sterile transport container.

**Do not use viral transport medium**

Contact the laboratory at 484-885-3579 before shipping specimens.

**Varicella Zoster Virus Detection <sup>1, 2</sup>**

**Method:** Real-time PCR

**Specimen Type:** See below

**Specimen Amount:** 1 swab or 1 tissue specimen

**Container:** Sterile container

**Storage:** 2 to 8 °C

**Transport:** 2 to 8 °C

Specimen Types: Fluid or skin from vesicle or pustule, punch biopsy, ocular impressions or swab

Collection instructions: (1) Sanitize skin with alcohol wipe and allow to completely dry (2) Open and remove the top of the lesion using a sterile scalpel or polyester or rayon-tipped swab (3) Break off swab and place in a sterile transport container.

**Do not use viral transport medium**

Contact the laboratory at 484-885-3579 before shipping specimens.

**Vibrio Species Identification <sup>2</sup>**

**Methods:** Conventional biochemical tests and serology

**Specimen Type:** Bacterial isolate

**Specimen Amount:** Not applicable

**Container:** Culture tube

**Media:** Blood, chocolate, or TSA slant

**Storage:** Ambient temperature

**Transport:** Ambient temperature

**Viral Respiratory Panel <sup>1, 2</sup>**

**Method:** Real-time PCR

**Specimen Types:** Nasopharyngeal, nasal, or throat swab

**Specimen Amount:** 1 swab

**Container:** Viral transport tube

**Media:** Viral transport medium

**Storage:** 2 to 8 °C

**Transport:** 2 to 8 °C

The Bureau of Laboratories' viral respiratory panel includes: Adenovirus, Chlamydia pneumoniae, Coronavirus (not SARS-CoV-2), Human Metapneumovirus, Human Rhinovirus/Enterovirus, Human Parainfluenza Virus type 1-4, Mycoplasma pneumoniae, Respiratory Syncytial Virus Type A and B.

**West Nile Virus Serology <sup>1, 2</sup>**

**Method:** ELISA IgG and IgM

**Specimen Types:** Serum, plasma, or cerebral spinal fluid      **Specimen Amount:** ≥ 1 mL

**Container:** 5 mL vial

**Storage:** 2 to 8 °C

**Transport:** 2 to 8 °C

**Zika Virus Serology <sup>1, 2</sup>**

**Method:** ELISA IgM

**Specimen Types:** Serum, plasma, or cerebral spinal fluid      **Specimen Amount:** ≥ 1 mL

**Container:** 5 mL vial

**Storage:** 2 to 8 °C

**Transport:** 2 to 8 °C

The Bureau of Laboratories does not perform Zika Virus serology. Specimens are referred to the Centers for Disease Control and Prevention for testing.

**Zika Virus Detection <sup>1, 2</sup>**

**Method:** Real-time PCR

**Specimen Type:** Serum, plasma, or cerebral spinal fluid      **Specimen Amount:** ≥ 1 mL

**Container:** 5 mL vial

**Storage:** 2 to 8 °C

**Transport:** 2 to 8 °C

See the Bureau of Laboratories' website ([www.health.pa.gov/labs](http://www.health.pa.gov/labs)) for specimen collection instructions and submission forms

## Division of Chemistry & Toxicology

### Abrine and Ricinine

**Method:** Liquid chromatography – tandem mass spectrometry

**Specimen Type:** Urine

**Specimen Amount:** ≥ 5 mL

**Container:** Urine collection cup

**Storage:** - 20 °C

**Transport:** - 20 °C

Contact Greg DeLong at 484-870-6279 before submitting specimens. Collect and submit specimens as soon as possible once exposure is suspected. The ideal specimen volume is 50 mL.

### Blood Lead <sup>1, 2</sup>

**Method:** Atomic absorption spectroscopy

**Specimen Type:** Blood

**Specimen Amount:** ≥ 500 µL

**Container:**

**Storage:** 2 to 8 °C

**Transport:** Ambient temperature

### Cyanide

**Method:** Gas chromatography – mass spectrometry

**Specimen Type:** Blood

**Specimen Amount:** ≥ 1 mL

**Container:** Blood collection tube containing EDTA

**Storage:** 4 to 8 °C (DO NOT FREEZE)

**Transport:** 4 to 8 °C (DO NOT FREEZE)

Contact Greg DeLong at 484-870-6279 before submitting specimens. Collect and submit specimens as soon as possible once exposure is suspected. If possible, submit two blood collection tubes. Fill the tubes as completely as possible. Minimizing the vacant space in the tubes increases the accuracy of the analysis.

**4-Hydroxy-3-Nitrophenylacetic Acid (HNPA)**

**Method:** Liquid chromatography – tandem mass spectrometry

**Specimen Type:** Urine

**Specimen Amount:** ≥ 5 mL

**Container:** Urine collection cup

**Storage:** -20 °C

**Transport:** -20 °C

Contact Greg DeLong at 484-870-6279 before submitting specimens. Collect and submit specimens as soon as possible once exposure is suspected. The ideal specimen volume is 50 mL.

**Organophosphate Nerve Agent Metabolites**

**Method:** Liquid chromatography – tandem mass spectrometry

**Specimen Type:** Urine

**Specimen Amount:** ≥ 5 mL

**Container:** Urine collection cup

**Storage:** -20 °C

**Transport:** -20 °C

Contact Greg DeLong at 484-870-6279 before submitting specimens. Collect and submit specimens as soon as possible once exposure is suspected. The ideal specimen volume is 50 mL.

**Post-mortem Blood Alcohol**

**Method:** Headspace gas chromatography

**Specimen Type:**

**Specimen Amount:** 10 mL

**Container:** Blood collection tube containing sodium oxalate and potassium fluoride (grey-topped tube)

**Storage:** 2 to 8 °C

**Transport:** Ambient temperature

Testing is only available to county coroners and medical examiners. Submit two grey-topped tubes for each deceased individual. The submitted tubes will also be used for post-mortem drugs of abuse testing.

### Post-mortem Drugs of Abuse

**Methods:** Screening: Immunoassay    Confirmation: Gas chromatography – mass spectrometry

**Specimen Type:**

**Specimen Amount:** 10 mL

**Container:** Blood collection tube containing sodium oxalate and potassium fluoride (grey-topped tube)

**Storage:** 2 to 8 °C

**Transport:** Ambient temperature

Testing is only available to county coroners and medical examiners. Submit two grey-topped tubes for each deceased individual. The submitted tubes will also be used for post-mortem blood alcohol testing.